

**FAST APPLICABLE HAIR PIECE PROVIDED WITH A WEAVING BAND COMPLETELY  
INTEGRATED WITH BASIC HAIR AND METHOD FOR ATTACHING THEREOF**

5 The invention relates to a fast applicable hair piece for obtaining a special  
esthetical effect like e.g. a colour effect or a hair volume effect. The hair piece  
comprises at least one thin, broad and flat hair piece consisting of parallelley  
oriented hairs, and a lightweight and thin elongated weaving band comprising  
10 e.g. cotton or a synthetic material such that the hair piece may be completely  
integrated with the basic hair and is easily removable, having a remarkable high  
wearing comfort for the user. Furthermore the invention relates to a method for  
attaching the fast applicable hair piece.

15 Hair pieces used in modern hair fashion and hair cosmetics are applied for hair  
extension or for hair shaping, but also for obtaining a special esthetical effect like  
e.g. a colour effect, volume effect etc. Hair pieces usually made from artificial hair  
or natural hair must meet many different requirements. These hair pieces must be  
easily attachable and also be easily removable and also must provide high  
20 wearing comfort to the user. Furthermore the hair pieces must be shape retaining,  
durable and weatherproof and also shampoo etc. resistant. It is known to shape a  
modern hair piece as a relatively thin, broad and flat hair bundle which at the  
position of the first free end (hair tops) is provided transversely with a known  
weaving band, firstly for mutual interconnection of the hairs and secondly for  
25 obtaining a surface for interconnection with the basic hair. Moreover the weaving  
band may be made from natural or artificial hair, but also from a strip/sheet shaped  
flexible plastic strip. Such a hair piece with weaving band which may be easily  
connected and removed from the basic hair or natural hair of a person is also  
called a weft. Such a hair piece is attached to the basic hair by conducting a  
30 number of basic hairs or a knot of hair through openings in the weaving band and  
interconnecting these knots of hairs. These openings are provided between the  
weaving elements connected to the hairs of the hair bundle.

The disadvantage of this type of hair piece with weaving band is that the interconnected knots of basic hair will remain visible because mixing of the hairs of the hair piece with the basic hair is difficult, so that it is easily remarked by other people that a hair piece is used. Camouflaging of the weaving band and the interconnected knots of basic hair is possible, but is labour-intensive and therefore expensive.

The object of the invention is to provide a hair piece that is easily, reliably and fastly connectable with basic hair, whereby the weaving band and the knots of basic hair are hardly visible.

According to the invention the hair piece for connection with basic hair comprises the following elements:

- at least one thin, broad and flat hair bundle consisting of a number of parallelly oriented hairs,
- a lightweight and thin elongated weaving band connected to the outer end of each hair bundle whereby the band is provided with a number of weaving elements made from hair or another suitable material, like cotton or a synthetic material, and whereby each of the hairs of the hair bundle is interconnected individually or in groups with the weaving elements of the weaving band,
- connection openings,
- connection elements each provided at a regular mutual distance between the weaving band(s) of the hair bundle(s).

Such a hair piece may be easily connected with the basic hair, whereby the weaving band and the knots of basic hair connected therewith are hidden from view during use, because they are located between both hair bundles. Moreover two hair bundles may be attached into the basic hair whereby connections must only once be made with the basic hair. A suitable number of basic hairs may be passed through said connection openings and subsequently interconnected by means of a suitable method by using adhesion/adhesive means, but also by means of braiding, knotting, rolling or the like. As a result a temporary, durable,

however eventually easily removable connection between the hair piece and the basic hair will be formed, in such a way that the hair piece is reusable and at the same time it offers a remarkable high wearing comfort to the user.

5 Particularly connection openings are being provided between the weaving elements and preferably the connection openings are being formed by weaving band loops or by joined weaving elements. Advantageously by adding a second hair bundle to the well known hair piece consisting of one hair bundle provided with connection openings in the weaving band a new hair piece is obtained  
10 comprising two hair bundles which may be economically and easily attached into the basic hair.

In a special embodiment the connection openings are being formed by the free space which is present between the connected weaving band(s). This embodiment  
15 can be economically and easily made because of the connection elements now formed between the interconnected weaving band(s) making the provision of connection element into the weaving band not necessary.

Particularly the hair piece is provided with one weaving band being connected with  
20 two hair bundles, whereby the weaving band is basically shaped as a closed loop. Preferably the head ends of a piece of weaving band are interconnected thereby forming a closed loop. By connecting the head ends of a single piece of weaving band and giving the band the shape of a closed loop the hair piece may be manufactured more easily and economically.

25 Particularly the head ends of the piece of weaving band are abuttingly positioned with respect to each other without overlapping each other. Preferably the head ends of the piece weaving band are interconnected by means of a stitched seam extending transversely over both weaving band ends. By these measures the  
30 wearing comfort is not decreased because of thickening of the band and also releasing, hanging open or fraying of the head ends is prevented.

In a particular embodiment the hair piece comprises two hair bundles whereby the first hair bundle is connected to a first weaving band and that the second hair bundle is connected to a second weaving band. In an equivalent way the hair piece according to the invention is obtained by connecting two single hair bundles  
5 by means of connection elements.

In a different embodiment of the invention the hair piece is configured by a number of small weaving bands each provided with hair bundles, shaped as a closed loop, whereby the small weaving bands are mutually connected (mutually transversely  
10 interconnected).

Particularly that the weaving bands of the hair bundles are interconnected with their upper sides, in other words, with the sides opposite of the hair bundle, by means of connection elements provided transversely at a regular distance.  
15 Preferably the upper sides of the weaving bands are transversely abuttingly positioned with respect to each other. By only interconnecting the upper sides of the weaving bands the hair piece may be easily unfolded for connection into basic hair and subsequently easily folded up. By positioning the upper sides abuttingly close to each other only short simple connection elements need to be fixed  
20 between the weaving band(s).

In a special embodiment repeatedly two connection elements are provided at a short distance with respect to each other. This gives the advantage that a hair piece may be shortened by cutting the weaving band between both neighbouring  
25 connection elements so that two hair pieces are obtained which have non fraying not open hanging weaving bands.

Particularly the hair bundle consists of small groups of hairs provided with interspaces having little or no hair. Preferably groups of hairs have a lateral  
30 dimension (a) between about 2 and 4 mm, the interspaces (22) having a lateral dimension (b) between about 0,5 en 3 mm. In this way the basic hair and the hair

of the hair piece are better mixed, thus obtaining a more natural effect whereby the hair piece is not easily detected in the hair style.

A particular embodiment the hair piece is laterally provided on both sides of one or more groups of hairs with less hair or hair volume. The wearing comfort is increased and especially the visibility of the closed loop embodiment is decreased because in the basic hair a local concentration of hair originating from the hair piece is prevented.

10 In a special embodiment the hair bundles are each provided with hairs of different length and/or colour or hue. Preferably the difference in length between the hairs of the hair bundles varies between about 2 en 12 cm. With these measures a natural integration of the hair piece into the basic hair is obtained in particular by applying on top of each other hair bundles of different length.

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The invention also relates to a method for attaching a hair piece into basic hair comprising the following steps:

- a) unfolding the hair piece principally in a flat plane in such a way that the free ends of the hair bundles being connected with the weaving band(s) are extending in an opposite direction with respect to each other,
- 20 b) positioning of the mutually interconnected weaving band(s) of the hair bundles in close vicinity of the basic hair, whereby the hair bundles are remaining to extend in an opposite direction,
- c) conducting at least one time a number of basic hairs (knot of hair) through a connection opening of the hair piece,
- 25 e) interconnecting the passed through knot of basic hair with the weaving band or with another knot of basic hair by means of other means while using a method known per se,
- f) repeating the steps c) till e) for another connection opening located in or
- 30 between the weaving band(s) until the hair piece is sufficiently fixedly connected with the basic hair along the length of the weaving band.

By connecting the hair piece in folded open position with the basic hair and subsequently folding up the hair piece a thorough mixing is obtained between the hair of the hair piece and the basic hair, whereby the parts that should not be visible like e.g. the interconnected knots of basic hair are hidden between the hair  
5 bundles of the hair piece.

Particularly the method known per se for connecting joint basic hairs comprises the following steps:

- 10 – positioning of an adhesion piece onto the joint basic hairs which piece in cross-section is shaped as a straight and/or diverging C,I,L or U-shaped profile or the like, either provided or not with interior or exterior ribs,
- fixedly interconnecting the adhesion piece with the joint hairs by application of a method known per se like compressing together or shrinking, either with or without using a suitable means and/or by the  
15 application of heat

Preferably the adhesion piece is attached onto basic hair by means of a thin sheet-shaped hull, made e.g. from aluminium foil, at a suitable distance from the weaving band like e.g. 2-3 cm.

In this way the hair piece may be fast attached into the hair of a person and also  
20 be removed quickly. As a result a durable and easlily removable connection of the hair piece with the basic hair will be formed in such a way that the hair piece may be reused.

The special design of said adhesion element and also the device is related to an  
25 invention described in Dutch patent application nr. 1021900 – "Herbruikbaar haarverlengstuk en inrichting en werkwijze voor het gebruiken ervan [Reusable hair extension and method for use thereof]" of the applicant.

The invention will now be described by means of an embodiment shown in of the drawing.

- Fig. 1 shows the back of the head of a person with a hair piece attached into the hairstyle, according to the invention;
- Fig. 2 shows a view of a known hair piece with openings between the weaving elements;
- Fig. 3 shows a perspective view of the hair piece according to the invention;
- Fig. 4 shows a perspective view of the hair piece, half folded up;
- Fig. 5 shows a perspective view of the hair piece, completely folded up;
- Fig. 6 shows a view of connecting the hair piece by means of a crochet hook;
- Fig. 7 shows schematically the closed loop embodiment of the hair piece;
- Fig. 8 shows schematically the embodiment of Fig.7 with connection elements ;
- Fig. 9 shows schematically the embodiment with mutually transversely interconnected small closed loops;
- Fig.10 shows a front view of an embodiment of the hair piece with hair bundles of different length, and
- Fig.11 shows a perspective view of an embodiment with curled hair.

- In Fig.1 is shown in detail how hair piece 1 according to the invention is connected in basic hair 6 of the hairstyle of a person, in such a way that the hair bundles 3 are configured as an hair extension like a tail.

- In Fig.2 is shown a known hair piece 1 with hair bundle 3 consisting of a number of parrallelly oriented hairs 20. These hairs are connected with weaving band 2, e.g. by means of weaving elements 11. In the weaving band 2 between the weaving elements 11, transversely at regular mutual distance of e.g. 2 cm, are attached a number of but also a set or groups (e.g. 2, 3 or 4) of substantially large recesses or connection openings 4. The openings 4 are configured between the weaving elements 11 connected with the hairs of the hair bundle 3, but they also may be configured by joining together of weaving elements.

Moreover a suitably amount of basic hairs may be conducted through said connection openings 4 and mutually interconnected on the back side of the weaving band 2 by means of a suitable method by using adhesive means, but also by means of a braiding, knotting, rolling or the like. As a result a temporary, durable however eventually easily removable connection between the hair piece and the basic hair will be formed, in such way that the hair piece is reusable and it offers at the same time a remarkable high wearing comfort to the user.

In Fig.3 is shown the fast applicable hair piece 1 according to the invention, comprising two broad hair bundles (strips of hair) 3' and 3'' each on the upper side provided with a weaving band 2', 2'' connecting the free upper ends of all the hairs of the hair bundles into a compact unit. The hair piece 1 is shown in unfolded state with first hair bundle 3' connected with first weaving band 2' and second hair bundles 3'' connected with second weaving band 2''. Both weaving bands 2', 2'' are mutually interconnected by means of connection elements 12; in this example configured as 'zigzag' mounted connection cords. Openings 4' and 4'' are formed by the free space available between the connection elements 12 and the upper side of the weaving bands 2' and 2''. Two knots of basic hair 9', 9'' are conducted through two adjacent connection openings 4' and 4'' and interconnected at a suitable distance of e.g. 2-3 cm from the openings 4', 4'' by means of a suitable hair connection means 13, like a clamping element. Furthermore when needed once more knots of basic hair 9', 9'' may be conducted through another free connection opening 4', 4'' formed between the weaving elements 2', 2'' and mutually interconnected to each other in order to fixedly and firmly connect the hair piece 1 with the basic hair.

If desired a knot of passed through basic hair 9', 9'' may be connected with weaving band 2', 2'' of hair bundle 3', 3'' for example at the outer end or head end of the hair piece 1 when no second knot of basic hair is available for connecting. As hair connection means 13 may be used an adhesion element manufactured from adhesion means at a suitable distance of e.g. 2-3 cm from the weaving band 2''. This adhesion element may be shaped in cross-section as a straight or diverging C, I, L, U profile or the like and moreover be provided with



interior or exterior ribs for obtaining a greater contact surface for connection with basic hair. A known device comprising e.g. a set of claws while using or not heat may be used for obtaining a compact connection between said adhesion element and said basic hair.

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In Fig.4 is shown that after the hair piece 1 is fixedly connected with the knots of basic hairs 9', 9'' the first hair bundle 3' with weaving band 2' is folded back over its flexible folding zone configured by the connection elements 12, so that the interconnected knots of basic hair 9', 9'' together with the hair connection means 13 are hardly visible, because they are hidden between the first and the second hair bundle 3' and 3''.

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In Fig.5 is shown the completely folded up hair piece 1 as it is applied in the basic hair of a person. Hair piece 1 is hanging on the interconnected knots of basic hair 9 which are passed through the connection openings configured between the weaving bands 2', 2''. It can be seen clearly, that the groups of hairs 21 are mixing well with the knots of basic hair 9.

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In Fig.6 is shown how a knot of basic hair 9 is conducted through connection opening 31 by means of a crochet hook 10. As a result on both sides of connection element 12 a knot of hair is passed through the hair piece 1. In this embodiment the weaving bands 2', 2'' of the hair bundles 3', 3'' are transversely abuttingly positioned with respect to each other because the connection elements 12 are short e.g. performed as stitch. Preferably the connection elements 12 are provided in the upper side of the weaving bands such that the hair piece 1 may be easily folded upwards or downwards.

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Fig.7 shows schematically an embodiment of the hair piece according to the invention whereby two hair bundles are formed by shaping a piece of weaving band into a closed loop. The outer ends or the head ends 30 of a piece of weaving band are interconnected such that a hair bundle 3' with weaving band is provided and a hair bundle 3'' (not shown) with weaving band 2''. Preferably the head ends

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30 are abuttingly touching each other however without overlapping, so that as a result at the location where the head ends are connected no thickening in the weaving band 2' will occur so that the wearing comfort is not diminished or the visibility of the hair piece 1 is increased. The connection between the head ends  
5 30 may be provided with an additional reinforcement by means of an additional stitching seam 36 extending over both weaving band ends.

Furthermore Fig.7 shows an easily adaptable embodiment of the hair piece on a short distance with respect to each other being provided with connection elements 35' configured between the weaving band (parts) 2', 2". In stead of a  
10 single connection element like a stitching seam double connection element 35', 35" are applied thereby offering the possibility to shorten the hair piece by cutting open the weaving band between the stitched seams 35', 35". As a result two hair pieces 1 are created, the first one with stitching seam 35', the second one with stitching seam 35" so that advantageously the outer ends of the cut open hair  
15 piece will not hang open or fray.

Moreover in Fig.7 is shown the embodiment of hair piece 1 whereby groups of hairs 21, 34 are alternately provided with interspaces 22 with little or no hair. As a result the basic hair will mix very good with the hair of the hair piece 1 so that the visibility of the hair piece is reduced. Preferably the width  $\underline{a}$  of a hair group has a  
20 value between 2 and 4 mm and the interspaces  $\underline{b}$  are having a size between 0.5 and 3 mm. Furthermore Fig.7 shows groups of hair 24 having less hair or hair volume. These groups 34 are laterally provided on the outer ends of hair piece 1 so that no thickening will occur locally in the basic hair and also the transition from basic hair to hair piece will be less visible.

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Fig.8 schematically shows how connection elements 12 are attached between both weaving band(s) (parts) 2', 2" by means of two stitching seams 35' and 35". The stitching seams 35' and 35" are provided at the upper side of the weaving band (parts) 2' and 2" so that hair piece 1 may be easily folded up and  
30 open up for connection into basic hair. Moreover it shows how the connection opening 31 is formed between connection elements 12, 35 and the weaving band (parts).

Fig.9 shows a hair piece 1 with two hair bundles and connected therewith weaving bands 2' en 2'', whereby the weaving band is configured by small weaving band 33', 33'', 33''', 33'''' provided with hair bundles. The small weaving bands are mutually transversely interconnected, with their head ends. The connection openings 33 are formed by the openings of the small weaving bands 33 so that as a result no connection elements need to be provided for configuring the connection openings. An intermediate form is also possible, whereby both the small weaving bands are interconnected and also connection elements are provided.

Fig.10 shows an embodiment of the hair piece 1 with hair bundles 3', 3'' with different lengths. Lower hair bundle 3'' is provided with groups of hair 21 having a greater length than the hairs of hair bundle 3'. The dimension  $\underline{c}$  of hair bundle 3' is e.g. between 2 and 40 cm while the dimension  $\underline{d}$  of hair bundle 3'' has a value between 4 and 50 cm such that the difference in length between the hairs of the groups has a value between 2 and 12 cm. It is also possible to vary the length of groups of hairs within a hair bundle or even to vary the length of hairs within a group of hairs.

Fig.11 shows an example of a hair piece 1 provided with hair bundles 3', 3'' comprising hairs which are specially wavy or curly. Also hairs, groups of hairs 21 or hair bundles 3', 3'' may be provided with a different colour or hue.

Due to the above mentioned measures the hair piece according to the invention may be connected with the basic hair in substantially shorter time, so that the flexural strain and the tension strain and the weaving band respectively are reduced to a minimum.

It will be clear that within the scope of the invention more embodiments are possible so that all technical equivalents known to a person skilled in the art are also considered to be part of the inventive idea.

The method for attaching a hair piece into basic hair according to the invention comprises the following steps:

firstly hair piece 1 is completely unfolded such that the hair bundles are extending in a flat plane. This is done by displacing the free ends 23', 23'' of the hair bundles in opposite direction in such a way that the hair bundles and the weaving band(s) 2', 2'' connected therewith are extending in opposite directing with respect to each other;

subsequently the hair piece is positioned in close vicinity of the basic hair, whereby the hair bundles remain in their opposed extending position, as shown in Fig.3 and Fig.6;

then a number of basic hairs (knot of hair) 9, 9' is conducted through a connection opening 4, 31 of the hair piece 1, e.g. by means of crochet hook 10; as shown in Fig.6. Subsequently a second knot of basic hair 9'' is conducted through a nearby connection opening 4, 31;

after that the passed through knots of basic hair 9', 9'' are connected to each other e.g. by means of other means like a clamping element 13; as shown in Fig.3;

aforesaid steps are repeated for other connection openings in or between the weaving bands until the hair piece is sufficiently fixedly connected with the basic hair; finally the hair piece is partially folded up, as shown in Fig.4; and subsequently completely folded up as shown in Fig.5.

(Claims)